

## **METHOD AND APPARATUS FOR A PILOT SEARCH USING A MATCHED FILTER**

### **ABSTRACT**

The present invention includes a cellular pilot signal detector or searcher for use in a cellular mobile communications unit. The signal detector uses a matched filter to detect a pilot signal transmitted from a cellular base station. The matched filter includes a plurality of taps and a plurality of delays located between adjacent taps. The signal components of a received digital signal are held on the taps of the matched filter by the delays. The matched filter compares the signal components of the received signal to an expected or searched for digital pattern. The matched filter puts out a relatively large signal if the received digital signal matches the expected digital pattern. The matched filter can also be used in parallel with a correlator.